

Applicant: Laitinen, et al.
Application No.: 10/034,423
Art Unit: 3726

Claim Listing

1-7. (canceled)

8. (currently amended) A method of making a roll end for a roll in a paper or board machine or in a finishing machine, the roll end comprising ~~a whole having~~ an axle journal with an end flange, as well as a duct system situated inside the material of the roll end, the method comprising making the roll end by a powder metallurgy process in a mold such that the duct system has portions within the end flange of the roll end, the duct system end flange portions being formed in connection with the stage of making the roll end by the powder metallurgy process;

wherein the duct system is formed of a pipe system positioned within the mold prior to filling the mold with a metal ~~[[power]]~~ powder and applying pressure, and wherein the pipe system is coated ~~on a pipe~~ outside with a heat insulating coating layer before the pipe system is disposed in the mold.

9. (original) The method of claim 8 wherein the coating is accomplished by flame spraying or by plasma spraying.

10. (original) The method of claim 8 wherein the heat insulating coating layer is zirconium oxide.

11. (currently amended) The method of claim ~~[[1]]~~ 8 wherein a high-alloy material is used as the powder metal material in the powder metallurgy process.

12. (original) The method of claim 11 wherein the high-alloy material is a gas-atomised medium-carbon tempering steel powder.

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13. (currently amended) A method of making a roll end for a roll in a paper or board machine or in a finishing machine, the roll end comprising ~~a whole~~ having an axle journal with an end flange, as well as a duct system situated inside the material of the roll end, the method comprising:

making the roll end by a powder metallurgy process by placing steel powder in a mold such that the duct system has portions within the end flange of the roll end, the duct system end flange portions being formed in connection with the stage of making the roll end by the powder metallurgy process;

wherein, in the axle journal of the roll end, a powder material that conducts heat more poorly than steel, is used at a selected ~~desired~~ depth in a region intended to be under a bearing.

14. (original) The method of claim 13 wherein the powder material that conducts heat more poorly than steel is a metal matrix composite.

15-32. (cancelled)